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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/15/2000

Niilo Musikka

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27045

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05/26/2004

ERICSSON INC.
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EXAMINER

LAM, DANIEL K

ART UNIT

PAPER NUMBER

2667

7

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/738,067

Applicant(s)

MUSIKKA ET AL.

Examiner

Daniel K Lam

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2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figures 1, 2, and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-4, 6-11, 13, and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 6,377, 799 issued to Hameleers et al (hereinafter Hameleers) in view of U. S. Pat. No. 5,761,195 issued to Lu et al (hereinafter Lu).

Regarding **claim 1**, Hameleers discloses a method for optimal routing of a call in an IP-based telecommunication network, comprising the steps of:

- Sending an access request message, ASS REQ 23 (see figure 1A-1 and col. 3, lines 53-55) from the MSC 15 to the BSC 14 (sending a message to said Base Station System). The access request message contains CALL ID and contains port numbers

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embedded in the IP protocol stack (said message including information associated with a plurality of ports in an IP network).

- The BSC 14 (see figure 1A-1 and col. 3, lines 55-56), then, forwards the message as create connection message ,CREACON 24, to the BTS 13 (ordering a first base transceiver station and ordering a second base transceiver station).

However, Hameleers does not disclose the limitations that the first base transceiver station sends a packet associated with the call to a second base transceiver station via an IP port, or the limitation that the second base transceiver station sends a packet associated with the call to the first base transceiver station via another IP port. Lu discloses a method for cross connecting the mobile station MS 300 (see figure 2A and col. 6, lines 23-25) that is served by BTS 330 to another mobile station MS 304 that is served by BTS 334. The BSC 326 controls BTS 330 and BTS 334.

Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to design a method such that, after receiving the access request message from the MSC, sends cross connection messages to the BTS so that the they can send their bearer data directly to each other, for a key motivation. Since a large percentage of call up to 50% to 75% are typically involving mobile station located a short distance away from the caller, it is more economical to cross connecting two mobile stations directly at the lowest level of networking hierarchy as taught by Lu. See col. 1, lines 44-45, and col. 3, lines 16-19.

Regarding **claim 8**, Hameleers discloses a system for optimal routing of a call in an IP-based telecommunication network, comprising:

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- An Internet Protocol based radio telecommunication network (an IP network including a plurality of ports). See col. 1, lines 48-50.
- A media gateway MEDIA GW 18 (a gateway coupled to said IP network), A MSC 15 (a mobile switching center coupled to said gateway), BSC 14 and IP-SWIF 16 (a radio network server), and BTS 13 (a first base transceiver station coupled to said radio network server and a second base transceiver station coupled to said radio network server). See figure 1A-1, and col. 3, lines 36-41.
- Sending an access request message, ASS REQ 23 (see figure 1A-1 and col. 3, lines 53-55) from the MSC 15 to the BSC 14 (said mobile switching center sends a message to said Base Station System). The access request message contains CALL ID and contains port numbers embedded in the IP protocol stack (said message including information associated with a plurality of ports in an IP network).
- The BSC 14 (see figure 1A-1 and col. 3, lines 55-56), then, forwards the message as create connection message, CREA CON 24, to the BTS 13 (said radio network server ordering a first base transceiver station and ordering a second base transceiver station).

Furthermore, Lu discloses a method for cross connecting the mobile station MS 300 (see figure 2A and col. 6, lines 23-25) that is served by BTS 330 to another mobile station MS 304 that is served by BTS 334. The BSC 326 controls BTS 330 and BTS 334 (the first base transceiver station sends a packet associated with the call to a second base transceiver station via an IP port, and the second base transceiver station sends a packet associated with the call to the first base transceiver station via another IP port).

Regarding **claims 2 and 9**, in addition to disclose the limitations in claims 1 and 8 discussed earlier, Hameleers further discloses the MSC sends a update connection message UPDCON 92 (see figure 2A-2 and col. 5, lines 45-50) to the BSC which sends a modify connection message MODCON 93 to the base transceiver station (suspending a transfer of packets associated with said call from a gateway to said first base transceiver station and said second base transceiver station).

Regarding **claims 3, 4, 10 and 11**, in addition to disclose the limitations in claims 1 and 8 discussed earlier, Hameleers further discloses sending access request message ASS REQ 23 to initiate the cross connection (Said message comprises a Join CIC message; claim 3) containing signaling and connection id information, CALL ID (Said message includes at least Circuit Identity Code information or Signaling Connection information; claim 4). See figure 1A-1, and col. 3, lines 52-53.

Regarding **claims 6, 7, 13, and 14**, Hameleers further discloses a method and a system for optimal routing of a call, comprising:

- The MSC sends an update connection message UPDCON 92 (see figure 2A-2 and col. 5, lines 45-50) to the BSC which sends a modify connection message MODCON 93 to the BTS (Sending a message to said Base Station System, said message including restoration information associated with ports in an IP network; claims 6 and 13).
- After the BTS has modified the connection, it returns modified connection acknowledgement message MODCONACK 94 (see figure 2A-2, and col. 6, lines 9-13). The data payload 113 (see figure 2B) is forwarded via media gateway MEDIA

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- GW 18 (Restoring a transfer of packets associated with said call from a gateway to a first base transceiver station and a second base transceiver station via at least a first port and second port in said IP network; claims 6 and 13).
- The update connection message UPDCON 92 (see figure 2A-2) contains CON ID and REMCCONNDES information (Restoration information comprises Restore CIC information; claims 7 and 14).
 - An Internet Protocol based radio telecommunication network (an IP network including a plurality of ports; claim 13). See col. 1, lines 48-50.
 - A media gateway MEDIA GW 18 (a gateway coupled to said IP network; claim 13), A MSC 15 (a mobile switching center coupled to said gateway; claim 13), BSC 14 and IP-SWIF 16 (a radio network server; claim 13), and BTS 13 (a first base transceiver station coupled to said radio network server and a second base transceiver station coupled to said radio network server; claim 13). See figure 1A-1, and col. 3, lines 36-41.
4. **Claims 5 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Pat. No. 6,377, 799 issued to Hameleers et al (hereinafter Hameleers) in view of U. S. Pat. No. 6,654,361 issued to Dommety et al (hereinafter Dommety).

Regarding **claims 5 and 12**, Hameleers discloses the limitation in claims 1 and 8 discussed earlier. However, Hameleers does not disclose the limitations of performing a handover procedure for at least the first base transceiver station or the second base transceiver station. Dommety discloses a method for handoff optimization involves

selecting the first node as the cross over node. See figure 2 reference 205 and col. 4, lines 11-18.

Therefore, it would have been obvious to those having ordinary skill in the art, at the time of invention, to design a method such that, after receiving the access request message from the MSC, sends cross connection messages to the BTS to connect the mobile stations directly. If one of the mobile stations has moved to a new location, a handover procedure that optimizes latency and network resources are needed so as to maintain the call-in-progress as taught by Dommetty. See col. 1, lines 50-55, and col. 2, lines 22-25.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K. Lam whose telephone number is (703) 305-8605. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:30 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (703) 305-4378. The fax phone number for this Group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DKL *dkl*
May 22, 2004


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 5/24/04